IN THE SPECIFICATION:

Please amend the first full paragraph on Page 4, beginning on line 3 to read as follows:

In order to achieve the first object, as recited in claim 1 mentioned below, the invention provides a floor reaction force detection system of a legged mobile robot having at least a body and a plurality of legs each connected to the body through a first joint and each having a foot connected to a distal end of the leg through a second joint, comprising: a displacement sensor installed at a position in or adjacent to an elastic member, that contracts in response to a load, disposed between the second joint and a floor contact end of the foot, and generating an output indicating a displacement of the floor contact end of the foot relative to the second joint; and a floor reaction force calculator that calculates a floor reaction force acting on the foot based on the output of the displacement sensor, by using a model that describes a relationship between a displacement and a stress generated in the elastic member in response to the displacement of the floor contact end of the foot. Thus, since it is arranged to install a displacement sensor at a position in or adjacent to an elastic member disposed between the second joint and a floor contact end of the foot, that generates an output indicating a displacement of the floor contact end of the foot relative to the second joint; and a floor reaction force acting on the foot is calculated based on the output of the displacement sensor, by using a model that describes a relationship between a displacement and a stress generated in the elastic member in response to the displacement of the floor contact end of the foot, the floor reaction force can be accurately calculated, thereby enabling to control the legged mobile robot to walk more stably.